

The opinion in support of the decision being entered today was **not** written for publication in a law journal and is **not** binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRUCE J. CARLSON, ALAN N. MOE,
and DAVID H. PIXLEY

Appeal No. 1998-1445
Application No. 08/489,680

ON BRIEF

Before KRASS, FLEMING, and BARRY, Administrative Patent Judges.
BARRY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the rejection of claims 9-11, 13-20, and 22-25. We reverse.

BACKGROUND

The invention at issue in this appeal relates to coaxial cables. Coaxial cables are used to transmit cable television (CATV) signals to subscribers. More specifically, coaxial drop cables from the last link in a CATV system transfer CATV

signals from a distribution cable directly into subscribers' homes. Because a coaxial drop cable may be twisted and turned during installation, its dielectric material must be stiff enough to support its associated outer conductor during the twisting and turning, thereby preventing buckling or flattening of the outer conductor, which would impair the signal transmission characteristics of the cable.

The coaxial drop cable of the invention includes an elongate center connector formed of a conductive material, e.g., copper. A dielectric material, e.g., a closed cell polyethylene, surrounds and adheres to the center connector. To support the outer conductor and to prevent buckling, the dielectric material has a stiffness of at least 1000 pounds per linear inch. To increase the stiffness of the dielectric material, the dielectric material has a density of at least 0.30 g/cm^3 .

The annular outer conductor, also formed of an electrically conductive material such as aluminum or copper, surrounds and adheres to the dielectric material. To ensure

that the cable is flexible, the outer conductor includes a mechanically and electrically continuous, non-overlapping, tubular metallic shield having an outer diameter of no greater than 0.40 inches. To remain structurally intact and to resist cracking or fracturing as the cable is repeatedly flexed, however, the outer conductor has a thickness of at least 0.006 inches. Accordingly, the outer conductor has a predetermined thickness that is at least 2.5% of the outer diameter of the outer conductor.

Claim 9, which is representative for our purposes, follows:

9. A coaxial drop cable having predetermined signal transmission characteristics, including enhanced shielding properties, for transmitting both communications signals and electrical power, wherein the coaxial drop cable is adapted to extend between a distribution cable of a communications system and receiver means associated with at least one subscriber of the communications system, the coaxial drop cable comprising:

an elongate center conductor;

a dielectric material surrounding said center conductor;

an adhesive layer disposed between said center conductor and said dielectric material for bonding said dielectric layer to said center conductor; and

an annular outer conductor surrounding said dielectric material and being adhesively bonded thereto to form an integral cable core, said outer conductor comprised of a mechanically and electrically continuous, non-overlapping, tubular metallic shield,

wherein said dielectric material has a predetermined density of at least 0.30 g/cm³ and a corresponding predetermined compressive stiffness of at least 1000 pounds per linear inch, and wherein said outer conductor has a predetermined thickness which is at least 2.5% of its outer diameter such that the coaxial drop cable can efficiently transmit electrical power and can be readily flexed while maintaining the predetermined signal transmission characteristics.

The references relied on in rejecting the claims follow:

Wilkenloh et al. (Wilkenloh)	4,104,481	Aug.
1, 1978		
Fox et al. (Fox)	4,472,595	Sep. 18,
1984.		

Claims 9-11, 13-20, and 22-25 stand rejected under 35 U.S.C. § 103 as obvious over Fox in view of Wilkenloh. Rather than repeat the arguments of the appellants or examiner in

toto, we refer the reader to the briefs and answer for the respective details thereof.

OPINION

In deciding this appeal, we considered the subject matter on appeal and the rejection advanced by the examiner. Furthermore, we duly considered the arguments and evidence of the appellants and examiner. After considering the totality of the record, we are persuaded that the examiner erred in rejecting claims 9-11, 13-20, and 22-25. Accordingly, we reverse.

We begin by noting the following principles from In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993).

In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).... "A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Bell, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

If the examiner fails to establish a prima facie case, the rejection is improper and will be overturned.

In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

With these principles in mind, we address the examiner's rejection and the appellants' argument.

Admitting that Wilkenloh "does not disclose the corresponding stiffness of the dielectric," (Examiner's Answer at 5), the examiner alleges that the stiffness "is inherent from the density characteristic [of the dielectric]." (Id.) The appellants argue, "the compressive stiffness of the dielectric material is dependent not only upon the density of the dielectric material, but also other factors, such as the cell structure of the dielectric is material, and is therefore not 'inherent from the density characteristic'" (Appeal Br. at 13.)

Claims 9-11, 13-20, and 22-25 specify in pertinent part the following limitations: "said dielectric material has ... a corresponding predetermined compressive stiffness of at least 1000 pounds per linear inch" Accordingly, the

limitations require a dielectric material having a compressive stiffness of at least 1000 pounds per linear inch.

The examiner fails to show a suggestion of the limitations in the prior art. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Int. 1990) (citing In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986); W.L. Gore & Assocs. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981); In re Wilding, 535 F.2d 631, 190 USPQ 59 (CCPA 1976); Hansgirk v. Kemmer, 102 F.2d 212, 40 USPQ 665 (CCPA 1939)).

Here, the examiner fully admits "the fact that the stiffness of the dielectric material depends on many factors such as density, cell structure and thickness." (Examiner's Answer at 7.) He further admits that Fox and Wilkenloh do not

show the cell structure of the appellants' dielectric. Specifically, "[t]he cited references fairly show the claimed density and thickness but not the cell structure." (Id.)

Because the compressive stiffness of a dielectric material depends on its cell structure inter alia, and neither Fox nor Wilkenloh show the cell structure of the appellants' dielectric, we are unpersuaded the claimed compressive stiffness necessarily flows from the teachings of the applied prior art. Accordingly, we are further unpersuaded that teachings from the prior art would have suggested the limitations that "said dielectric material has ... a corresponding predetermined compressive stiffness of at least 1000 pounds per linear inch" The examiner fails to establish a prima facie case of obviousness. Therefore, we reverse the rejection of claims 9-11, 13-20, and 22-25 as obvious over Fox in view of Wilkenloh.

CONCLUSION

In summary, the rejection of claims 9-11, 13-20, and 22-25 stand rejected under 35 U.S.C. § 103 as obvious over Fox in view of Wilkenloh is reversed.

REVERSED

ERROL A. KRASS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
MICHAEL R. FLEMING)	APPEALS
Administrative Patent Judge)	AND
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LANCE LEONARD BARRY)	
Administrative Patent Judge)	

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GUY R. GOSNELL
BELL, SELTZER, PARK, AND GIBSON
P.O. BOX DRAWER 34009
CHARLOTTE, NC 28234

LLB/dal